

Figure 1. Qualitative pressure-volume plot for Interlocking HF-NH<sub>4</sub>F(HF)<sub>x</sub> power cycle used to internally generate mechanical energy for mixing F<sub>2</sub> and NH<sub>4</sub>F(HF)<sub>x</sub> for the production of NF<sub>3</sub>

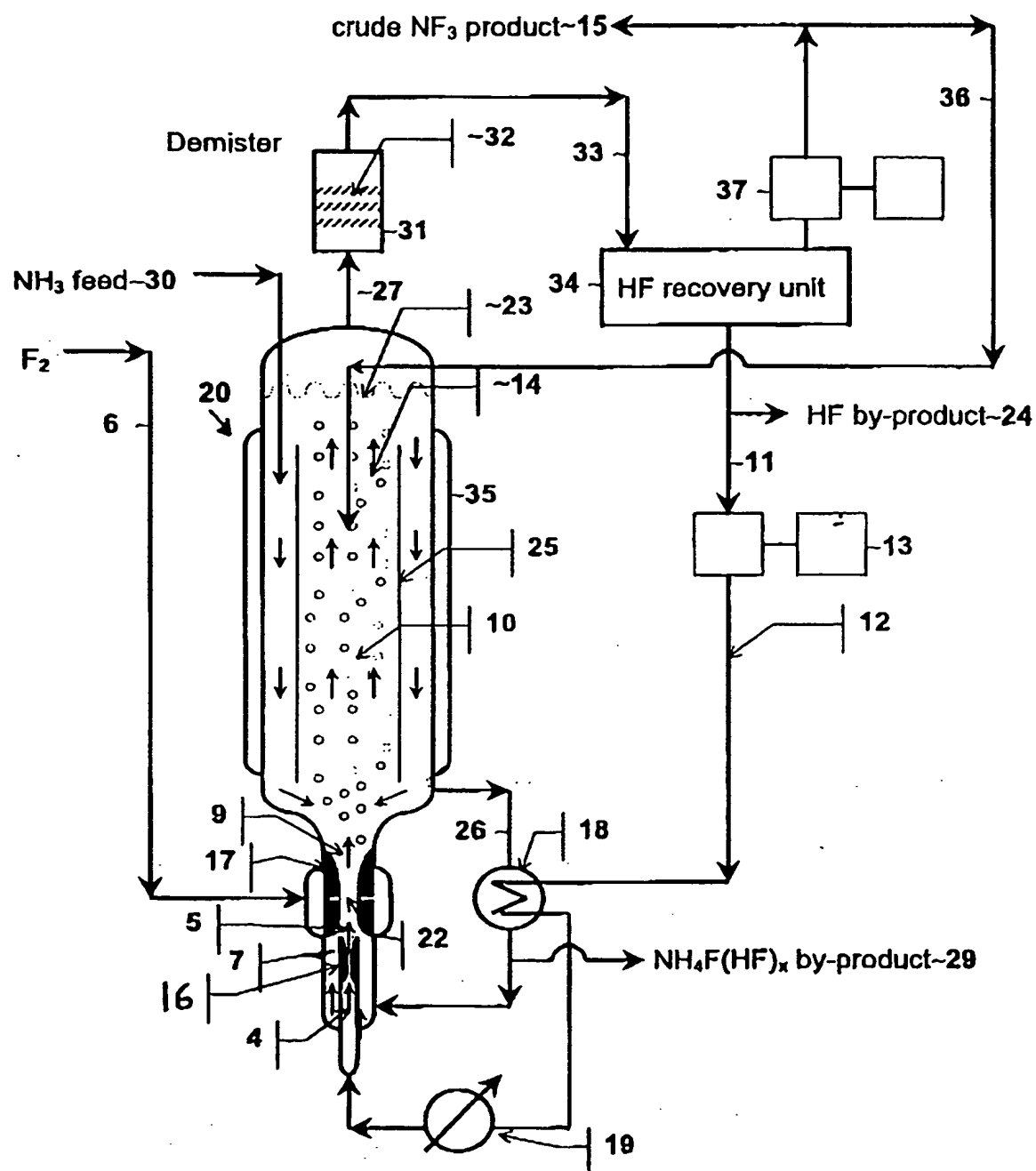


Figure 2. Up-flow reactor using power cycle illustrated on Figure 1 for the production of  $\text{NF}_3$

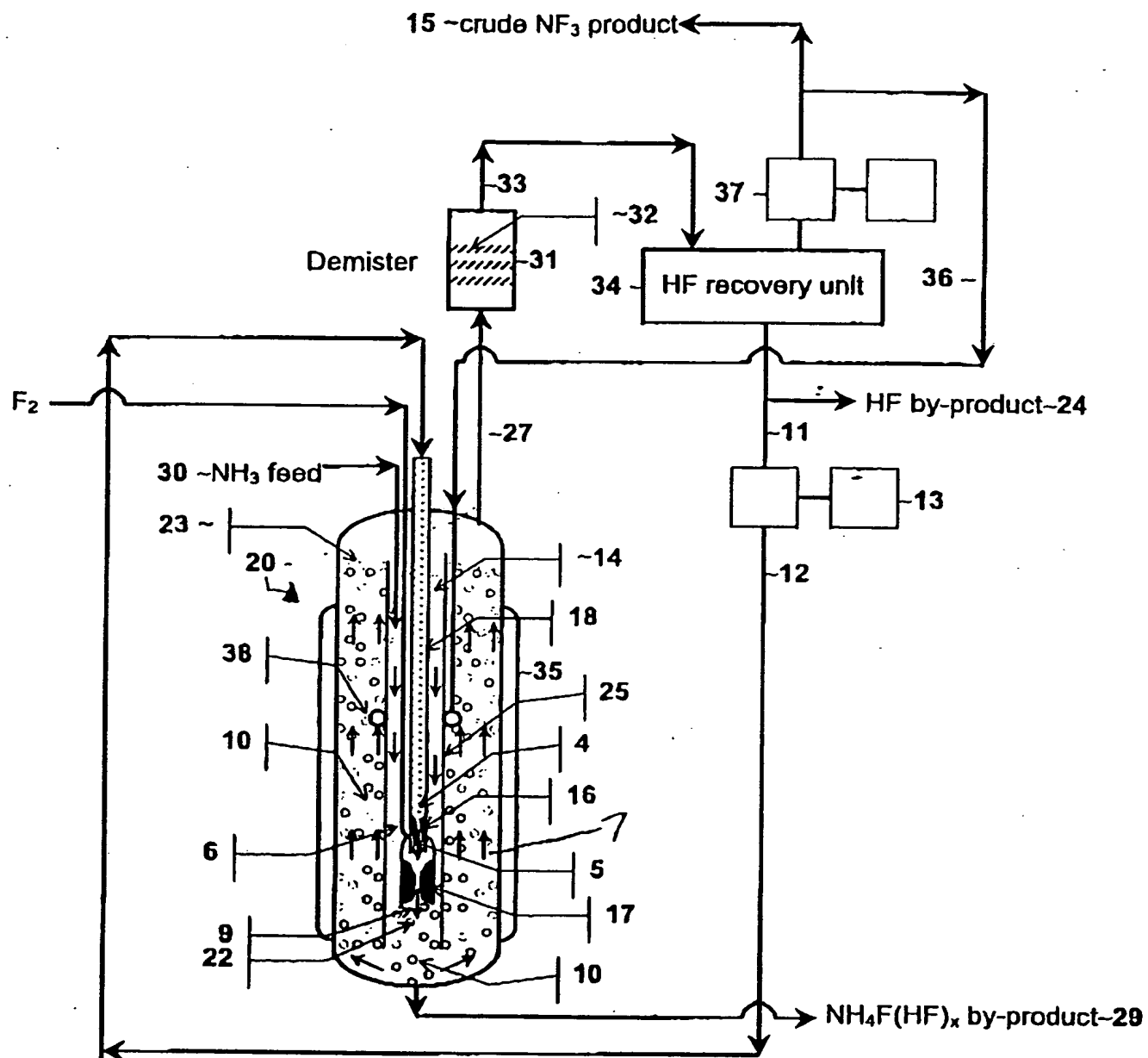


Figure 3. Down-flow reactor using power cycle illustrated on Figure 1 for the production of  $\text{NF}_3$